

New Features Reference

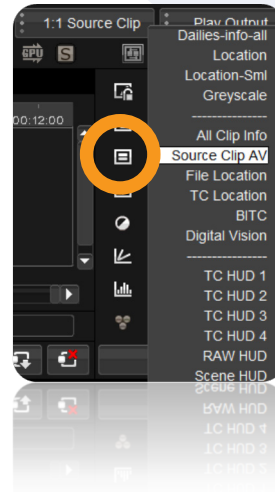
# Nucoda

Version 2012.2

Rev 4

## Text and Logo Burn-In

A new feature in Nucoda enables the rendering of text elements and graphics onto exported outputs. The HUD (Hheads up display) configuration files are used to achieve this, however there are some small differences.

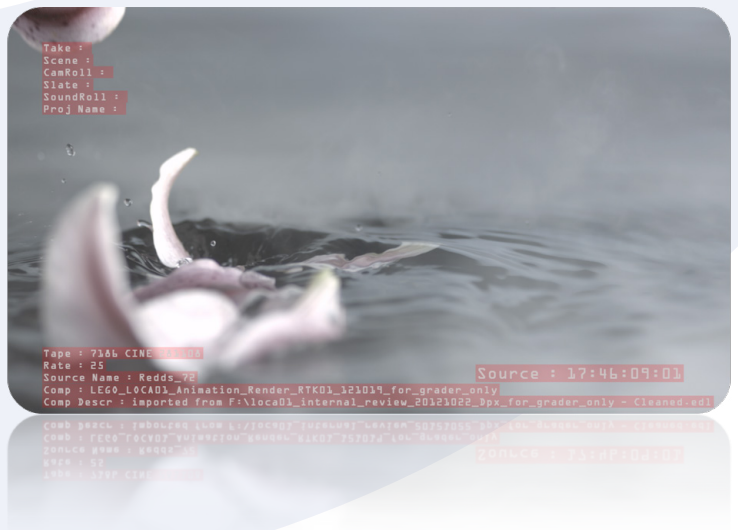
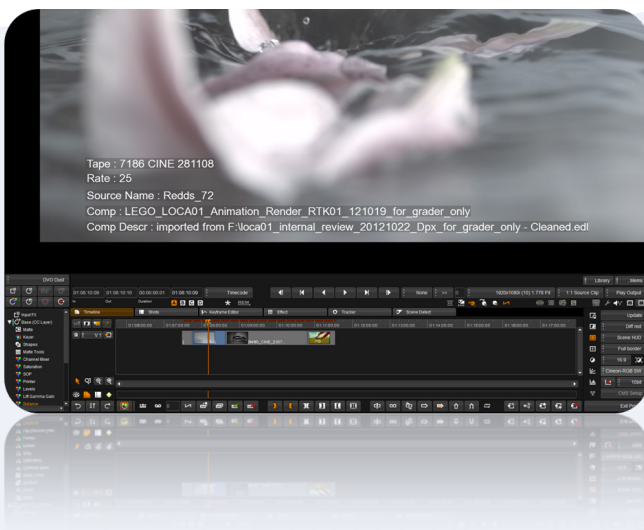


### General notes:

- By default text is rendered with semi-transparent block behind the text.
- You can replace the block with a soft shadow if you like
- Logo's can be added to the burn-in (multiple files are supported)
- Once transparency is set below 50% the shadow is automatically removed from the text - this is handy for watermarking.
- If the data for the requested field does not exist on the clip we will not display anything, In this way the Data HUD example we provide has fields for Arri, RED, Phantom and SI2K data in the top left, at the same position but It will only show the data if the fields exists in the files.
- You can specify the font, colour and transparency values of the burn-in, however the font, colour and transparency will only be visible on the exported file, and not in the nucoda.

HUD display in Nucoda & Phoenix  
Font set to : OCR A Extended  
BG set to : Red with 50% Transparency

Exported file, with font and colour options



## Implementation:

The burn-in is selected from the drop down menu in the GUI (or Precision)

When exporting material there is an additional selection box that will allow you to select the burn in to use from a drop down menu.



## Presets

There are some standard presets, they should cover most of the requirements, there are also some really crazy ones that have a lot of information you may not need.

MonitorHUD\_001.grids and MonitorHUD\_002.grids, are now included with the Nucoda installation in the C:\nucoda\2012.x\root\monitorHUDs folder, any graphic or logos you want to reference, must also be placed in this folder, included is a DigitalVision.png and the usual grayscale.png images for testing.

These .grids files are in addition to the MonitorHUDs.grids file that was there before, the presets in all the files are automatically read and added together in the list.

For the logo we support any file we can currently import, and also support the Alpha channel for transparency, PNG files are well suited to this.

We have added a new identifier to allow text to scale between output formats (within reason, depending on the amount of data and the font size)

Logos will not autoscale, so a logo in an HD frame might be too large for a PAL frame.

*Please see Page 526 of the user Manual for detailed information of the Grids Specification.*

## The following new identifiers were added to 2012.2

### ***burnInTextScale 1.5***

Using this identifier will cause the size and position of the burn-in text to reflect the size and positions on the HUD (best value is 1.5)

### ***textSizeBase 1080.0***

Using this identifier when creating a preset will allow the burn-in to scale accordingly when switching to other frame sizes, allowing the same preset to be used for multiple frame sizes.

In this case, the preset was set up for a HD frame, so the number after the Identifier was set to 1080

### ***textFont "Arial"***

Set the font for the burn-in. Use Windows Word Pad to get the correct name of the font.

### ***textStyle "bold italic"***

Set the text style

### ***bgColor 0, 0, 0, 0.5 (RGB and Alpha)***

Set the colour for background boxes for text.

### ***dropShadow 0.5 1 -1***

Sets up a drop shadow with opacity 0.5, offset 1 pixel to the right, and 1 pixel down (relative to the main text)

## The following new HUD fields were added to 2012.2

### ***##compName - Composition Name***

### ***##compDescription - Composition Description field***

The composition and composition description fields are handy for adding data such as version information to the burn-in. Please note, that these are refreshed only when reloading the composition, or if you update the fields in the Library view (double click the field to update.)

### ***##masterLocation - Location of the Src file***

This field will add the source path for the files (handy for editors who like changing the names of their RED files.

## Additional new fields available in the HUD (case sensitive)

### Scene and Take Info

```
##SourceId
##Take
##Scene
##Camroll
##Slate
##SoundRoll
##Director
##ProjectName
##DoP
##Cameraman
##DailiesColorist
##DateOfShoot
```



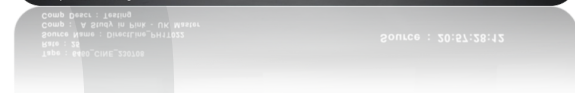
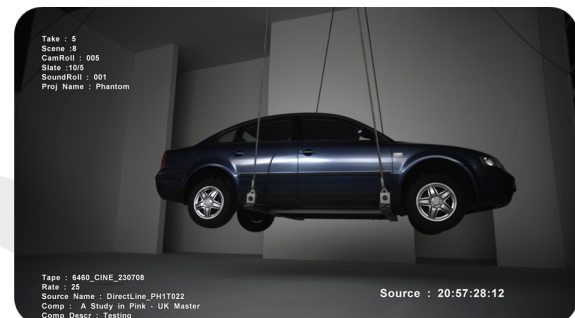
### Arri RAW

```
##ARRI.Camera
##ARRI.Scale
##ARRI.ISO
##ARRI.ColourTemp
##ARRI.Tint
##ARRI.Sharpness
##ARRI.ColorEncoding
##ARRI.ColorSpace
##ARRI.DebayerMode
```



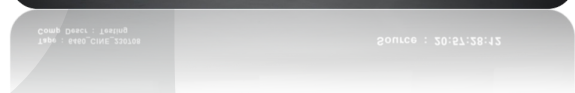
### Red RAW

```
##R3D.ASA
##R3D.Brightness
##R3D.Contrast
##R3D.DRX
##R3D.Detail
##R3D.Exposure
##R3D.FLUT
##R3D.HDRBlend
##R3D.Kelvin
##R3D.OLPF
##R3D.Saturation
##R3D.Shadow
##R3D.Tint
##R3D.Denoise
##R3D.OLPF
##R3D.Detail
##R3D.ColorSpace
##R3D.ColorScience
##R3D.HDRBlendMode"
##R3D.GammaCurve
##R3D.DecodeQuality
```



### Phantom Files

```
##CINE.Bright
##CINE.Gamma
##CINE.Scale
```



```
##CINE.Contrast
##CINE.Saturation
##CINE.DecodeQuality
##CINE.WBGain_R
##CINE.WBGain_B

SI2K

##SI2K.decodeResolution
##SI2K.advancedDetail
##SI2K.SATU
##SI2K.LOOK
##SI2K.gammaCurve
##SI2K.PROCESSING_LOOK_FILE
```

## HUD Example for Burn in

The following is the text from TC HUD 1 - The most basic preset - Tape name and Src TC

monitorGrid 1.0 -1

```
{
    name "TC HUD 1" ;
    units "normalised" ;
    burnInTextScale 1.5 ;
    textSizeBase 1080.0 ;
    color 1.0 1.0 1.0 1.0 ;
    bgcolor 0, 0, 0, 0.2 ;
    origin "top" "left" ;
    textFont "Arial" ;

    anchor "middle" "left" ;
    textSize 30.0 ;
    color 1.0 1.0 1.0 1.0 ;
    text .65 .90 "Source : ##srcTimeTimecode" ;

    textSize 20.0 ;
    text .05 .90 "Tape : ##srcTape" ;
}
```



By looking at the presets you will easily be able to add your own presets or modify the defaults, however, you should make a backup of your .grids file, as it will be overwritten if it has the same name and Nucoda is re-installed.



monitorGrid 1.0 -1	This is the opening line and is a requirement
{	Start of the preset
name "TC HUD 1" ;	Preset Name (must be unique across all .grids files) Strings always end with a ;
units "normalised" ;	With normalised units, the image coordinates are normalised to the range 0.0 to 1.0. This is the most flexible unit to use with burn ins, to make scaling between frame sizes possible)
burnInTextScale 1.5 ;	So, for example, the position 0.2 0.3 would be 20% from the left hand edge and 30% from the top if the origin is set to "Top" "Left"
textSizeBase 1080.0 ;	Additional text scaling applied for Burn-In text only, this value matches your HUD and Burn-In output more closely.
color 1.0 1.0 1.0 1.0 ;	This value sets the basis for scaling Text up or Down to other outputs - It should be set equal to the resolution you create the preset in. This set the font colour 1.0 (100%) R G B and A. Example : White faded text is 1.0 1.0 1.0 .50 (R 100% G 100% B 100% A50%)
bgcolor 0, 0, 0, 0,2	This sets the colour and transparency for the boxes behind the text
origin "top" "left" ;	Starting position from where all elements are placed
textFont "Arial" ;	Name of the font to render the text (tip: use Wordpad to check the actual font name in windows)
anchor "middle" "left" ;	The anchor for the text boxes - in this case the middle of the box vertically and the left side of the box horizontally
textSize 30.0 ;	Size of the text (point size)
color 1.0 1.0 1.0 1.0 ;	Re-use identifiers to change colours in the preset, please note, all identifiers used will affect all text afterwards, till you use another identifier to change it back.
text .65 .90 "Source : ##srcTimeTimecode" ;	This is a text Element - Placed 65% from the left hand side and 90% from th top of the image - Label is Source: and the data displayed is the Source Timecode
textSize 30.0 ;	Size of the text (point size)
text .05 .90 "Tape : ##srcTape" ;	
}	Preset End

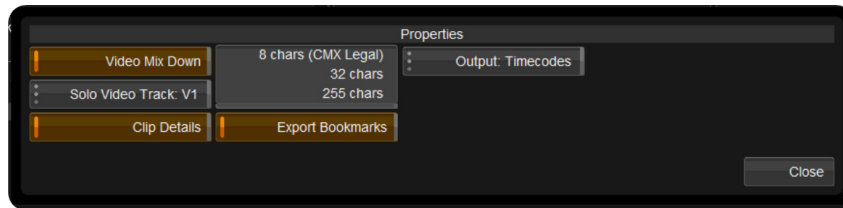
Using a single # will allow for comments - everything after a single # is ignored.

Apart from the "name", any of the other identifiers can be used multiple times, so you can change the font, colour, size and alignment to different values in each preset.

## EDL import and export options

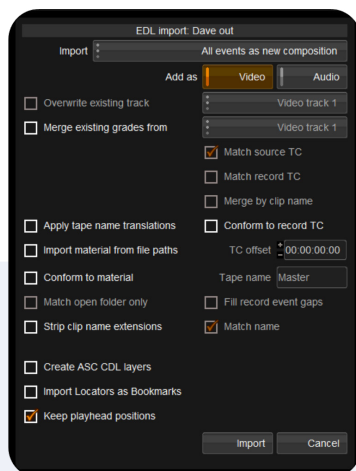
There have been a significant amount of enhancements made to EDL handling in Nucoda and Phoenix.

### Changes to EDL export:



There are four new options in the EDL export dialog box.

- **8 Chars (CMX Legal)** - This will export tapenames up to 8 Chars only, spaces are replaced with underscores and names are truncated. When a tape name is truncated an FCP style translate comment is added to the EDL
- **32 Chars** - This will export tapenames up to 32 Chars only, spaces are replaced with underscores and names are truncated.
- **255 Chars** - This will export tapenames up to 255 Chars only, spaces are replaced with underscores and names are truncated. When a tape name is truncated an FCP style translate comment is added to the EDL
- **Export Bookmarks** - This will export Nucoda bookmarks and add them to the EDL as comments with marker colour and timecode.



### Changes to EDL import:

There are three new options in the EDL import dialog box.

- Apply tape name translations
- Strip clip name extensions
- Import Locators as bookmarks



## EDL's from AVID

Selecting “apply tape name translations” when importing an EDL will use an available translation table from an AVID EDL (If specified on export) to replace the truncated tape names in the EDL with the original source names in the translation table. Please note that AVID EDL export will automatically replace spaces in tape name with an underscore.

### Avid EDL with translation table (Including Source files - options in EDL Manager)

```

11 B028C003 V C 15:01:43:02 15:01:44:00 01:00:31:03 01:00:32:01
* FROM CLIP NAME: B028C003_110714_R2KY.NEW.04.DV.GRADED.NEW.01.OLD.01
* SOURCE FILE: B028C003_110714_R2KY
012 B027C012 V C 13:02:14:12 13:02:17:01 01:00:32:01 01:00:34:15
* FROM CLIP NAME: B027C012_110714_R2KY.NEW.03.DV.GRADED.NEW.01.OLD.02
* LOC: 01:00:32:22 BLACK BLACK
* SOURCE FILE: B027C012_110714_R2KY
013 A027C011 V C 13:02:16:03 13:02:16:04 01:00:34:15 01:00:34:16
* FROM CLIP NAME: A027C011_110714_R28L.NEW.01.DV.GRADED.NEW.01.OLD.01
* SOURCE FILE: A027C011_110714_R28L
>>> SOURCE A027C011 A027C011_110714_060a2b3401010101010f00-13-00-00-00-{000000b7-9aed-1298-060e2b347f7f2a80%}
* SOURCE FILE: A027C011_110714_R28L
>>> SOURCE A027C012 A027C012_110714_060a2b3401010101010f00-13-00-00-00-{000000b7-136a-357a-060e2b347f7f2a80%}
* SOURCE FILE: A027C012_110714_R28L
>>> SOURCE A028C001 A028C001_110714_060a2b3401010101010f00-13-00-00-00-{000000b7-7bb3-508e-060e2b347f7f2a80%}
* SOURCE FILE: A028C001_110714_R28L
>>> SOURCE B027C012 B027C012_110714_060a2b3401010101010f00-13-00-00-00-{000000b7-3164-0b77-060e2b347f7f2a80%}
* SOURCE FILE: B027C012_110714_R2KY
>>> SOURCE B028C001 B028C001_110714_060a2b3401010101010f00-13-00-00-00-{000000b7-737f-4b16-060e2b347f7f2a80%}
* SOURCE FILE: B028C001_110714_R2KY
>>> SOURCE B028C003 B028C003_110714_060a2b3401010101010f00-13-00-00-00-{000000b7-e4e3-600b-060e2b347f7f2a80%}
>>> SOURCE 0012_030 0012_0304_2349 060a2b3401010101010f00-13-00-00-00-{508a5c84-68b8-3219-060e2b347f7f2a80%}
* SOURCE FILE: 0012_0304_2349

```

### Result of importing the EDL without using “Apply tape name translation” option

Index	Type	Tape Name	Clip Name
002	V	0012_030	B028C001_110714_R2KY.NEW.05.DV.GRADED.NEW.01.OLD.02
012	V	A027C011	A027C011_110714_R28L.NEW.01.DV.GRADED.NEW.01.OLD.01
001	V	A027C012	A027C012_110714_R28L.NEW.03.DV.GRADED.NEW.01
003	V	A027C012	A027C012_110714_R28L.NEW.04.DV.GRADED.NEW.01.OLD.01
007	V	A027C012	A027C012_110714_R28L.NEW.05.DV.GRADED.NEW.01.OLD.01
006	V	A028C001	A028C001_110714_R28L.NEW.02.DV.GRADED.NEW.01
005	V	B027C012	B027C012_110714_R2KY.NEW.02.DV.GRADED.NEW.01.OLD.01
009	V	B027C012	B027C012_110714_R2KY.NEW.03.DV.GRADED.NEW.01.OLD.01
011	V	B027C012	B027C012_110714_R2KY.NEW.03.DV.GRADED.NEW.01.OLD.02
000	V	B028C001	B028C001_110714_R2KY.NEW.04.DV.GRADED.NEW.01.OLD.01
004	V	B028C001	B028C001_110714_R2KY.NEW.05.DV.GRADED.NEW.01
008	V	B028C003	B028C003_110714_R2KY.NEW.04.DV.GRADED.NEW.01.OLD.02
010	V	B028C003	B028C003_110714_R2KY.NEW.04.DV.GRADED.NEW.01.OLD.01
010	A	B038C009	B038C009_110114_R3KA.HEM.01.DA.CHYDED.HEM.01.OLD.01
008	A	B038C009	B038C009_110114_R3KA.HEM.01.DA.CHYDED.HEM.01.OLD.03
009	A	B038C001	B038C001_110114_R3KA.HEM.02.DA.CHYDED.HEM.01

### Result of importing the EDL using “Apply tape name translation” option, the truncated names are replaced from the translation table.

Index	Type	Tape Name	Clip Name
002	V	0012_0304_2349	B028C001_110714_R2KY.NEW.05.DV.GRADED.NEW.01.OLD.02
012	V	A027C011_110714_R28L	A027C011_110714_R28L.NEW.01.DV.GRADED.NEW.01.OLD.01
001	V	A027C012_110714_R28L	A027C012_110714_R28L.NEW.03.DV.GRADED.NEW.01
003	V	A027C012_110714_R28L	A027C012_110714_R28L.NEW.04.DV.GRADED.NEW.01.OLD.01
007	V	A027C012_110714_R28L	A027C012_110714_R28L.NEW.05.DV.GRADED.NEW.01.OLD.01
006	V	A028C001_110714_R28L	A028C001_110714_R28L.NEW.02.DV.GRADED.NEW.01
005	V	B027C012_110714_R2KY	B027C012_110714_R2KY.NEW.02.DV.GRADED.NEW.01.OLD.01
009	V	B027C012_110714_R2KY	B027C012_110714_R2KY.NEW.03.DV.GRADED.NEW.01.OLD.01
011	V	B027C012_110714_R2KY	B027C012_110714_R2KY.NEW.03.DV.GRADED.NEW.01.OLD.02
000	V	B028C001_110714_R2KY	B028C001_110714_R2KY.NEW.04.DV.GRADED.NEW.01.OLD.01
004	V	B028C001_110714_R2KY	B028C001_110714_R2KY.NEW.05.DV.GRADED.NEW.01
008	V	B028C003_110714_R2KY	B028C003_110714_R2KY.NEW.04.DV.GRADED.NEW.01.OLD.02
010	V	B028C003_110714_R2KY	B028C003_110714_R2KY.NEW.04.DV.GRADED.NEW.01.OLD.01
010	A	B038C009_110114_R3KA	B038C009_110114_R3KA.HEM.01.DA.CHYDED.HEM.01.OLD.01
008	A	B038C009_110114_R3KA	B038C009_110114_R3KA.HEM.01.DA.CHYDED.HEM.01.OLD.03
009	A	B038C001_110114_R3KA	B038C001_110114_R3KA.HEM.02.DA.CHYDED.HEM.01

## EDL's from FCP

The following example from Final Cut Pro has had the Reels replaced by truncated names when it was exported from FCP.

Using the “apply tape name translation” option when loading this EDL will automatically replace the truncated tape names with the originals based on the clip name field.

### Original EDL - Note truncated sources

```

TITLE: TDP REEL 3 FOR DI
FCM: NON-DROP FRAME
*FCM: DIGITAL TV 24P

001      AX V      C      02:00:00:00 02:00:08:00 03:00:00:00 03:00:08:00
* FROM CLIP NAME: TLD LEADER
* COMMENT:

002      A003C012 V      C      07:55:58:20 07:56:07:08 03:00:08:00 03:00:16:12
* FROM CLIP NAME: A003_C012_1110LG
* COMMENT:
FINAL CUT PRO REEL: A003_C012_1110LG REPLACED BY: A003C012

003      A003C029 V      C      09:32:41:11 09:32:43:12 03:00:16:12 03:00:18:13
* FROM CLIP NAME: A003_C029_1110PP
* COMMENT:
FINAL CUT PRO REEL: A003_C029_1110PP REPLACED BY: A003C029

004      A003C035 V      C      10:12:53:12 10:12:55:07 03:00:18:13 03:00:20:08
* FROM CLIP NAME: A003_C035_1110HE
* COMMENT: 100% - 103% PUSH IN
FINAL CUT PRO REEL: A003_C035_1110HE REPLACED BY: A003C035

005      A003C029 V      C      09:32:43:17 09:32:47:10 03:00:20:08 03:00:24:01
* FROM CLIP NAME: A003_C029_1110PP
* COMMENT:
FINAL CUT PRO REEL: A003_C029_1110PP REPLACED BY: A003C029

006      A003C037 V      C      10:18:18:02 10:18:20:02 03:00:24:01 03:00:26:01
* FROM CLIP NAME: A003_C037_1110ET
* COMMENT: 100% - 103% PUSH IN
FINAL CUT PRO REEL: A003_C037_1110ET REPLACED BY: A003C037

:INVT CIL BKO REEF: Y003C035_1110ET REEFVCD BA: Y003C035
* COMMENT:
* FROM CLIP NAME: Y003_C035_1110ET
006 Y003C035 A      C      10:18:18:05 10:18:20:05 03:00:24:01 03:00:26:01

:INVT CIL BKO REEF: Y003C035_1110ET REEFVCD BA: Y003C035
* COMMENT:
* FROM CLIP NAME: Y003_C035_1110ET
006 Y003C035 A      C      10:18:18:05 10:18:20:05 03:00:24:01 03:00:26:01

```

### Translated EDL - Tape name is replaced with clip name from FCP Reel Comment

Index	Type	Tape Name	Clip Name
000	V	A003_C012_1110LG	A003_C012_1110LG
009	V	A003_C017_1110U2	A003_C017_1110U2
011	V	A003_C025_1110U	A003_C025_1110U
001	V	A003_C029_1110PP	A003_C029_1110PP
003	V	A003_C029_1110PP	A003_C029_1110PP
005	V	A003_C029_1110PP	A003_C029_1110PP
008	V	A003_C029_1110PP	A003_C029_1110PP
010	V	A003_C033_1110HH	A003_C033_1110HH
002	V	A003_C035_1110HE	A003_C035_1110HE
006	V	A003_C035_1110HE	A003_C035_1110HE
004	V	A003_C037_1110ET	A003_C037_1110ET
007	V	A003_C037_1110ET	A003_C037_1110ET
019	V	A003_C039_1110F	A003_C039_1110F
021	V	A003_C041_1110M7	A003_C041_1110M7
023	V	A003_C042_1110XB	A003_C042_1110XB
030	V	A003_C043_1110PK	A003_C043_1110PK
030	A	Y003_C043_1110PK	Y003_C043_1110PK
032	A	Y003_C045_1110XB	Y003_C045_1110XB
034	A	Y003_C041_1110M1	Y003_C041_1110M1
038	A	Y003_C036_1110LE	Y003_C036_1110LE
039	A	Y003_C035_1110LG	Y003_C035_1110LG

This EDL only has AX - Auxiliary sources as reels, when we detect the string in the EDL

**\* PROBLEM WITH EDIT:** - The reel name will set to “Unknown” when using the “apply tape name translation” option

The reason for using only the first part of the string is that some EDL's will warn that there is no reel name, and sometimes that there is no timecode, when in fact both are missing. In this way we will always replace the source name when a problem is flagged.

Selecting “strip clipname extensions” will remove the last full stop and trailing characters from the clip names, allowing conform from clipname.

### AX Sources

```

TITLE: R1
FCM: NON-DROP FRAME
*FCM: DIGITAL TV 24P

001      AX V      C      00:00:01:00 00:00:05:15 01:01:11:14 01:01:16:05
* FROM CLIP NAME: PIX-1493FX1.MOV
* PROBLEM WITH EDIT: CLIP HAD NO REEL NAME.

002      AX V      C      00:00:00:15 00:00:05:00 01:01:16:05 01:01:20:14
* FROM CLIP NAME: PIX-1775FX1.MOV
* PROBLEM WITH EDIT: CLIP HAD NO REEL NAME.

003      AX V      C      00:00:00:19 00:00:09:19 01:01:20:14 01:01:29:14
* FROM CLIP NAME: PIX-0799FX.MOV
* PROBLEM WITH EDIT: CLIP HAD NO REEL NAME.

004      AX V      C      00:00:01:03 00:00:10:22 01:01:29:14 01:01:39:09
* FROM CLIP NAME: PIX-0801FX1.MOV
* PROBLEM WITH EDIT: CLIP HAD NO REEL NAME.

005      AX V      C      00:00:00:21 00:00:08:06 01:01:39:09 01:01:46:18
* FROM CLIP NAME: PIX-1818FX.1.MOV
* PROBLEM WITH EDIT: CLIP HAD NO REEL NAME.

006      AX V      C      00:00:00:23 00:00:13:19 01:01:46:18 01:01:59:14
* FROM CLIP NAME: PIX-1831FX.1.MOV
* PROBLEM WITH EDIT: CLIP HAD NO REEL NAME.

* BKOBFEN MLIH EDIL: CFIb HYD NO REEF NYWE'
* BKO BFIB NYWE: BIX-I818FX.1.MOA
006 VX A      C      00:00:00:53 00:00:13:19 01:01:46:18 01:01:59:14

* BKOBFEN MLIH EDIL: CFIb HYD NO REEF NYWE'
* BKO BFIB NYWE: BIX-I818FX.1.MOA
006 VX A      C      00:00:00:53 00:00:13:19 01:01:46:18 01:01:59:14

```

### Sources replaced with “Unknown” clip names stripped of extensions

Index	Type	Tape Name	Clip Name
016	V	001	ARC-5123-V
017	V	001	ARC-5124-V
009	V	Unknown	PIX-0038FX.1
019	V	Unknown	PIX-0110FX
008	V	Unknown	HDL-1442FX.1
021	V	Unknown	PIX-0482FX
001	V	Unknown	PIX-1775FX1
006	V	Unknown	PIX-0841FX
007	V	Unknown	PIX-1407FX1
014	V	Unknown	ILL-1768FX
002	V	Unknown	PIX-0799FX
004	V	Unknown	PIX-1818FX.1
018	V	Unknown	PIX-0107FX
005	V	Unknown	PIX-1831FX.1
000	V	Unknown	PIX-1493FX1
012	V	Unknown	PIX-0038FX.4
013	V	Unknown	ILL-0933FX
003	V	Unknown	PIX-0801FX1
015	V	Unknown	ILL-0790FX
011	V	Unknown	PIX-0038FX
020	V	Unknown	PIX-0097FX
010	V	Unknown	PIX-0038FX
040	A	Unknown	BIX-00038FX
050	A	Unknown	BIX-00038FX
011	A	Unknown	BIX-00038FX

## EDL's from FCP

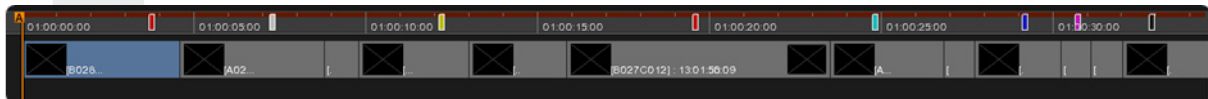
EDL's imported into FCP require 2 spaces after the *SOURCE FILE: xxxx* comment, if there was only one space, the source file would be incorrectly interpreted by FCP, Nucoda now exports EDL's that conform to this convention.

## Support for EDL's with Locator (marker) information

When exporting an EDL from the Avid, there is an option to include locator information in the EDL. Nucoda will now read in interpret the information and colour match the locators, placing them on the Nucoda timeline as Timeline Markers.

In the export options, you can also select to export the markers from Nucoda in a similar way.

```
FILE: DAVID
FCM: NON-DROP FRAME
001 B028C001 V C 14:41:13:01 14:41:17:16 01:00:00:00 01:00:04:15
* FROM CLIP NAME: B028C001_110714_R2KY.NEW.04.DV_GRADED.NEW.01.OLD.01
* LOC: 01:00:03:19 RED RED
* SOURCE FILE: B028C001_110714_R2KY
002 A027C012 V C 13:09:24:19 13:09:28:24 01:00:04:15 01:00:08:20
* FROM CLIP NAME: A027C012_110714_R28L.NEW.03.DV_GRADED.NEW.01
* LOC: 01:00:07:07 WHITE WHITE
* SOURCE FILE: A027C012_110714_R28L
003 0012_030 V C 14:41:22:16 14:41:23:16 01:00:08:20 01:00:09:20
* FROM CLIP NAME: B028C001_110714_R2KY.NEW.05.DV_GRADED.NEW.01.OLD.02
* SOURCE FILE: 0012_0304_2349
004 A027C012 V C 13:09:58:23 13:10:02:03 01:00:09:20 01:00:13:00
* FROM CLIP NAME: A027C012_110714_R28L.NEW.04.DV_GRADED.NEW.01.OLD.01
* LOC: 01:00:12:05 YELLOW YELLOW
* SOURCE FILE: A027C012_110714_R28L
005 B028C001 V C 14:41:27:06 14:41:30:02 01:00:13:00 01:00:15:21
* FROM CLIP NAME: B028C001_110714_R2KY.NEW.05.DV_GRADED.NEW.01
* SOURCE FILE: B028C001_110714_R2KY
006 B027C012 V C 13:01:56:09 13:02:04:01 01:00:15:21 01:00:23:13
* FROM CLIP NAME: B027C012_110714_R2KY.NEW.02.DV_GRADED.NEW.01.OLD.01
* LOC: 01:00:19:15 GREEN GREEN
* LOC: 01:00:19:15 GREEN GREEN
* FROM CLIP NAME: B051C015_110714_R2KY.NEW.05.DV_GRADED.NEW.01.OLD.01
008 B051C015 A C 13:01:26:00 13:01:27:00 01:00:23:13 01:00:25:00
* SOURCE FILE: B051C015_110714_R2KY
* FROM CLIP NAME: B051C015_110714_R2KY.NEW.05.DV_GRADED.NEW.01.OLD.01
```



## Support for EDL's with extended CDL information

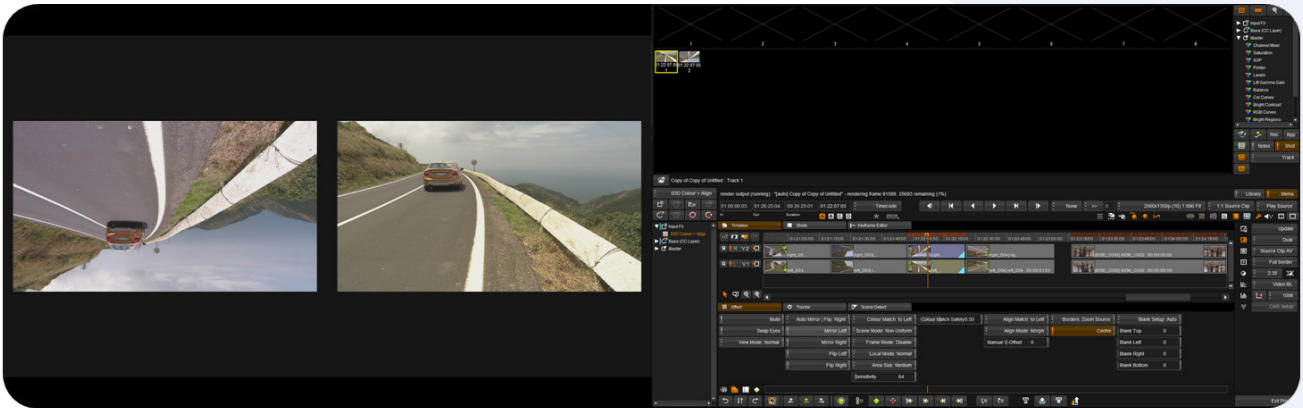
Due to the specification of CMX not allowing lines longer than 80 char, when creating a CDL with extended precision values (4 decimal points) the EDL's created by Avid will automatically place the values exceeding 80 chars on the next EDL line, preceded by an \*

```
000003 A007R1Y8 V C 10:25:30:21 10:29:16:19 01:04:45:11 01:08:31:09
* FROM CLIP NAME: 003
* ASC_SOP (1.041984 1.041675 1.041162)(-0.040069 -0.033391 -0.041859)(1.065496 1.0
* 66012 1.066495)
* ASC_SAT 1.59
```

Nucoda will correctly read and interpret these values from the EDL.

## DVO Stereo Fix tool

The DVO Stereo Fix tool has been extensively updated and has many new options and parameters available to the user. The tool can only be applied as an input effect and will be applied to the Left and Right eyes simultaneously.



## View and orientation

### Mute: On/Off

Mutes the colour match as well as the align match and associated border/blanking modes. The parameters in this section regarding view and orientation are active, i.e. SwapEyes/ViewMode/Mirror/Flip. Can be used to view before and after, while correcting any necessary mirror/flip.

### Swap Eyes: On/Off

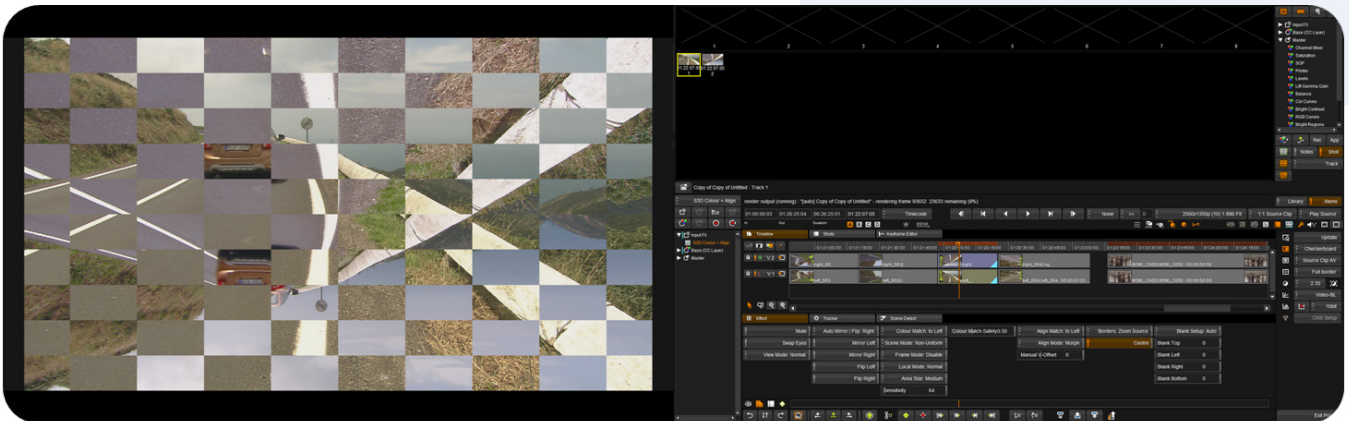
Swaps left and right eye on output. All parameters referring to either left and right are associated with the source left and right tracks, and as such, the actual processing is not affected by swapping eyes on the output.

### View Mode: Normal, Blended, Side-By-Side

This control allows different view modes to be applied on the output, mainly for visualization purposes. The different modes are:

- Normal – Normal separate left and right outputs.
- Blended – Blends left and right image, which could be used to verify alignment processing.
- Side-By-Side – Displays left and right images side-by-side with halved horizontal resolution. If this mode is used to verify colour matching simultaneously, please note that many monitors might have colour reproduction which varies spatially or by viewing angle.

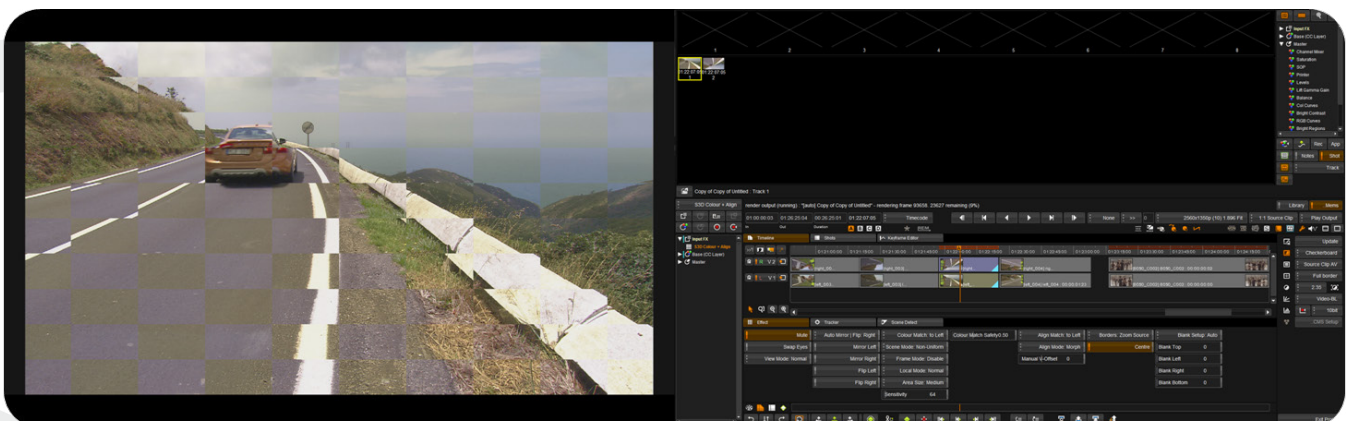




Using the Chequerboard comparison view, the images are clearly not correctly oriented

## **Auto Mirror/Flip: Disable, Left, Right**

Automatically determines mirror and flip between left and right eye. A detected required mirror/flip is applied to the eye which the parameter is set to. The automatic operation will also follow any manual settings applied to the other eye regarding mirror and flip.



Images are now correctly oriented using Auto Mirror

**Mirror Left: On/Off** : Manually set left eye to be mirrored.

**Mirror Right: On/Off** : Manually set right eye to be mirrored.

**Flip Left: On/Off** : Manually set left eye to be flipped (vertically).

**Flip Right: On/Off** : Manually set right eye to be flipped (vertically).

## Colour matching

### Colour Match: to Left, to Right

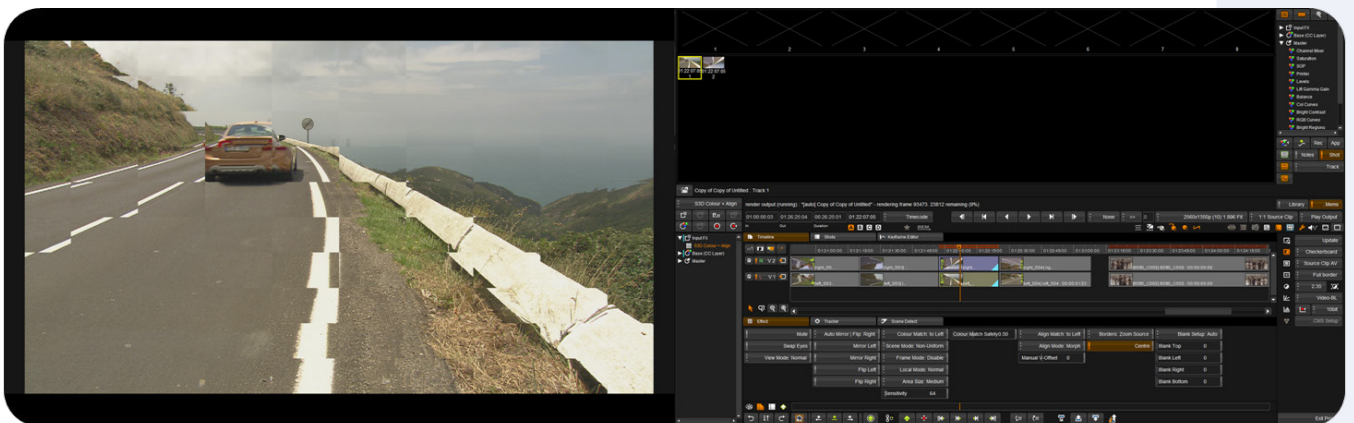
Sets colour processing to match the eye which the parameter is set to, i.e. “to Left” processes the right eye to match the left eye.

Scene Mode: Disable, Uniform, Non-Uniform

Sets the colour matching mode for a scene such that the scene is analysed and processed equally throughout. Apart from disable, the different modes relates to how colour matching may vary spatially over the image. It does not imply anything about the spectrum transform being uniform/non-uniform. To be specific, the different modes available are:

- Disable – No colour match processing is performed (on scene basis).
  - Uniform – Colour matching is assumed to be spatially uniform.
  - Non-Uniform – Colour matching is allowed to be spatially non-uniform.
- This mode typically works just as well when the colour differences are spatially uniform.

NOTE: Scene Mode requires that material has proper scene edits, as normally one scene can behave very different from another and would confuse the analysis.

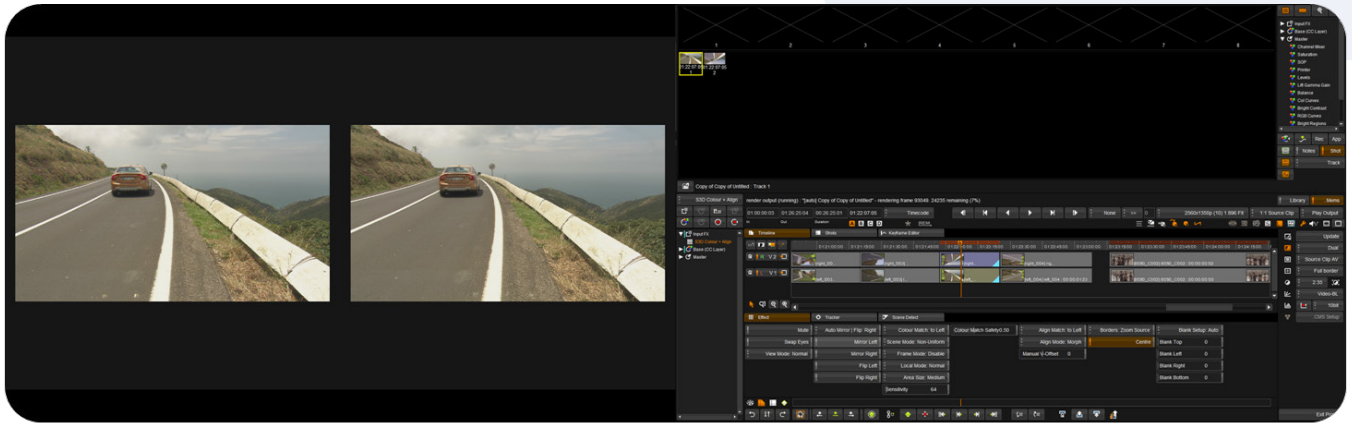


Images are colour matched

### Frame Mode: Disable, Uniform, Non-Uniform

Sets the colour matching mode which is applied per frame individually. Other than that, the processing and different modes are the same as for “Scene”. This option is typically an alternative to the scene colour processing, when it appears that colour differences change throughout the scene. It’s recommended that scene processing is disabled when used.





Matched images viewed Side by Side

## Local Mode: Disable, Normal

### **Area Size: X-Small, Small, Medium, Large, X-Large**

Sensitivity: 0-1023 (64) – values correspond to 10-bit pixel levels.

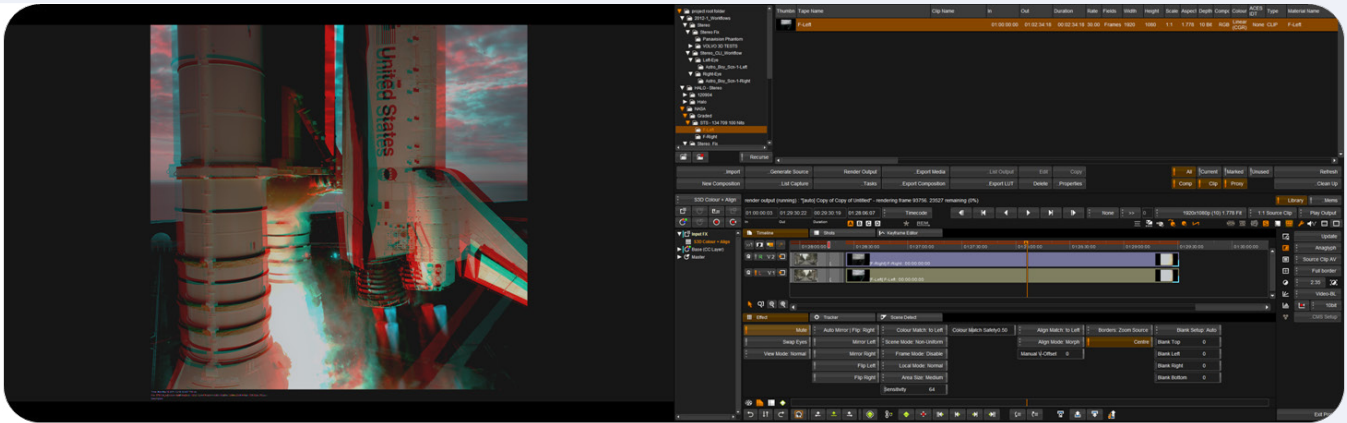
This option allows a much more localized colour match processing than the scene and frame modes. The smaller the area size is the more locally aggressive it can be considered to be. The sensitivity parameter is used to control the allowed difference ranges, but it's effect is more of a safety measure rather than a processing amount.

NOTE: Local processing can be turned off to speed up processing of complete scenes/material – speed optimizations may be available at a later date.

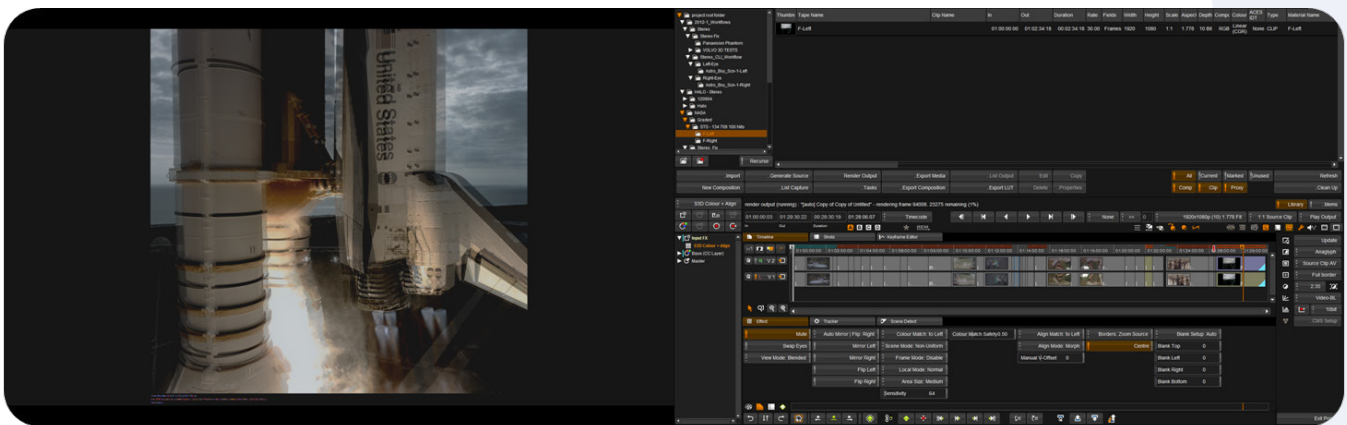
### **Colour Match Safety: 0.0-1.0 (0.5)**

This parameter sets a general safety level for the scene and frame based colour matching (not including local mode, which uses area size and sensitivity instead). Safety applies to black levels as well as the analysis and variability of the spectrum transform applied.

## Align matching



Anaglyph view to show image misalignment easily



Use merge view as an alternative to see errors

### **Align Match: to Left, to Right**

Defines which eye alignment should match to and consequently process the other to match this, i.e. 'to Left' means process right eye to match left eye.

### **Align Mode: Disable, Manual, Global, Morph**

#### ***Manual V-Offset: Value for pixel offset (0.0)***

The alignment processing is based on scene analysis and frames are processed equally throughout the scene. The alignment can also be set manually or adjusted with a global offset

## (Manual V-Offset). Different modes are:

- Disable – No alignment processing
  - Manual – Set manual global vertical offset (using Manual V-Offset)
  - Global – Automatic and global adjustment
  - Morph – Spatially variable adjustment with linear variability over the image.
- NOTE: Much like scene based colour matching, the alignment analysis requires that material has proper scene edits, as normally one scene can behave very different from another and would confuse the analysis.

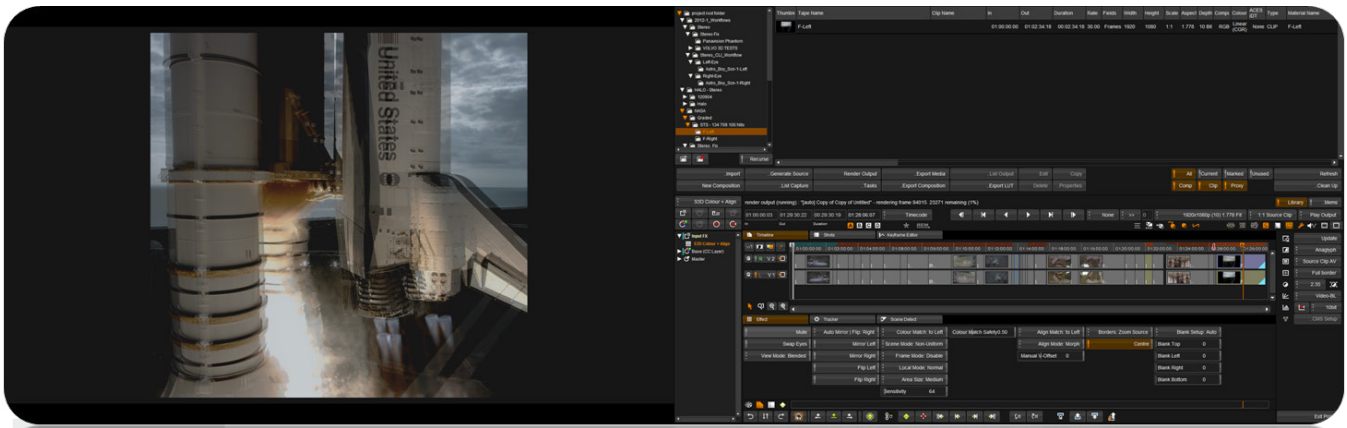


Image after alignment

## Borders: Disable, Blank, Zoom Source, Zoom Fill

Centre: On/Off

To hide the effect alignment has on frame borders, borders can be handled in a number of ways. Apart from the border mode itself, an additional centering may be relevant in some modes and can thus also be applied. Borders processing further depends on the Blank Setup.

## The different modes are:

- Disable – Don't treat borders.
- Blank – Automatically applies necessary blanking to borders.
- Zoom Source – Automatically zooms the output to the source frame and original blanking. Just like the blanking mode, this mode takes into account what needs to be excluded regarding the borders and alignment.
- Zoom Fill – Automatically zooms the output to fill the full frame disregarding any original blanking of the source.

**Blank Setup: Auto, Source, Output*****Blank Top,Left,Right,Bottom: Each specified by number of pixels (0)***

Defines if blanking is set up by automatic analysis or manually in relation to source or the output. Blanking affects the border processing and its effect will depend on the 'Borders' mode setting. Typical use is 'Auto' which determines the blanking by automatic analysis. The mode 'Source' allows the user to specify this manually instead. The mode 'Output' allows the user to specify blanking completely manually based on the output alone, i.e. user needs to manually regard frame effects from the alignment processing as well as the original source frame blanking. Consider 'Output' an advanced mode.

***Blank Setup: Auto, Source, Output******Blank Top,Left,Right,Bottom: Each specified by number of pixels (0)***

Defines if blanking is set up by automatic analysis or manually in relation to source or the output. Blanking affects the border processing and its effect will depend on the 'Borders' mode setting. Typical use is 'Auto' which determines the blanking by automatic analysis. The mode 'Source' allows the user to specify this manually instead. The mode 'Output' allows the user to specify blanking completely manually based on the output alone, i.e. user needs to manually regard frame effects from the alignment processing as well as the original source frame blanking. Consider 'Output' an advanced mode.

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